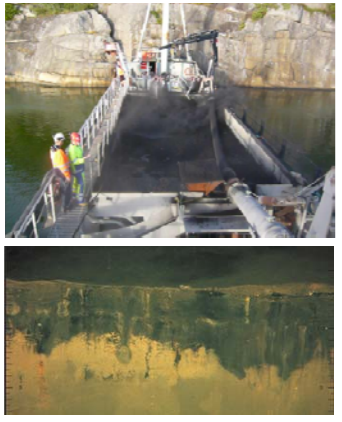
a) Application of activated carbon in a tidal mud-flat at Hunters Point Navy Shipyard, San Francisco Bay, CA using two application devices (2004 and 2006). The Aquamog (top) using a floating platform approached the site from water and used a rototiller arm while the slurry injection system (bottom) was land based and applied a carbon slurry directly into sediment.

b) Application of activated carbon under 15 feet of water at Grasse River, NY, USA (2006). The site was enclosed with a silt curtain and application was performed using a barge mounted crane. Placement and mixing of the AC was achieved using two devices: 1) a 7-by-12-foot rototiller-type mixing unit; and 2) a 7-by-10-foot tine sled device.

c) Application of activated carbon slurry directly onto sediments at Trondheim Harbor, Norway (2007). AC-salt water slurries with/without powdered bentonite clay were pumped 3-5 ft above the sediment bed under 20 ft of water. Part of the AC-only field was successfully covered with 5 mm sand to protect from erosion.

d) Application of activated carbon in a pelletized form (SediMite^{TM}) using an air blown dispersal device over a vegetated wetland impacted with PCBs near James River, VA, USA (2009). Picture below illustrates bioturbation induced breakdown and mixing of pelletized carbon with a fluorescent tag in a laboratory aquarium.



e) Application of AC-clay mixture at 100 and 300 ft depth, Grenlandsfjords, Norway (2009). A hopper dredger was used to pick up clean clay from an adjacent site. After AC-clay mixing, the trim pipe was deployed in reverse to place an AC-clay mixture on the sea floor. Sediment-profile imaging and sediment coring (bottom figure) showed that placement of an even active cap was successful.

Supplemental Figure S1. Descriptionsof pilot-scale demonstrations of activated carbon amendment into sediment at five field sites.

Supplemental Table S1. Summary of activated carbon demonstration projects

SITE LOCATION	Type of application	Funding	Application date	Contaminants	Points of Contact
Hunters Point, CA Site 1: tidal mudflat Site 2: tidal mudflat	 AC-mixed AC-mixed	 US Navy NAVFAC	 Aug 2004 Jan 2006	 PCBs PCBs	luthy@stanford.edu
Grasse River, NY: River sediments	AC-mixed/ unmixed	Alcoa, EPA, DoD	Sep, 2006	PCBs	Larry.McShea@alcoa.com ughosh@umbc.edu
Trondheim Harbor, Norway: Ocean harbor	AC-slurry unmixed	Norwegian Res. Council	May, 2007	PCBs, PAHs, PBDEs, DDT	Gerard.Cornelissen@ngi.no Gijs.Breedveld@ngi.no
US Army Installation in VA: Tidal creek & marsh	AC as SediMite	SRP, NIEHS	Aug 4-5, 2009	PCBs	ughosh@umbc.edu camenzie@exponent.com
Grenlandsfjords, Norway: Ocean harbor	Slurry of native clean clay and AC	Norwegian Res. Council, industry, Norwegian EPA	Sep, 2009	dioxins/furans	Gerard.Cornelissen@ngi.no Espen.eek@ngi.no Morten.schaanning@niva.no
Aberdeen Proving Ground, MD: Tidal creek & marsh	AC as SediMite	DoD-ESTCP	Dec 2010	Hg, Me-Hg, PCBs, DDT	camenzie@exponent.com ughosh@umbc.edu